

**Cici X.C. Bauer, Ph.D.**  
*Assistant Professor of Biostatistics*  
*Brown University*

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CONTACT INFORMATION	Center for Statistical Sciences Brown University, Box G-S121-7 121 S. Main St., Providence, RI 02912 <a href="http://www.stat.brown.edu/cbauer/">http://www.stat.brown.edu/cbauer/</a>	<i>Phone:</i> 401-863-6561 <i>Fax:</i> 401-863-9182 <i>E-mail:</i> <a href="mailto:Cici_Bauer@brown.edu">Cici_Bauer@brown.edu</a>
RESEARCH INTERESTS	Bayesian spatial-temporal modeling; Spatial-temporal epidemiology; Bayesian small area estimation; Hierarchical models for complex survey data.	
EDUCATION	Ph.D., <i>Statistics</i> , University of Washington Seattle, August 2012 <ul style="list-style-type: none"><li>• Dissertation: <i>Bayesian Modeling of Health Data in Space and Time</i></li><li>• Advisor: Prof. Jon Wakefield</li><li>• Committee: Prof. Peter Guttorp, Prof. Vladimir Mini, Prof. Paul Sampson, Prof. Steve Self</li></ul> M.S., <i>Statistics</i> , University of Fairbanks, August 2005 B.S., <i>Statistics</i> , Anhui University, People's Republic of China, July 2003	
ACADEMIC APPOINTMENTS	<b>Assistant Professor (Tenure Track)</b> Department of Biostatistics, Brown University	September 2012 – present
	<b>Faculty Affiliate</b> Spatial Structures for the Social Sciences (S4), Brown University	September 2012 – present
	<b>Fellow</b> Institute for the Study of Environment & Society, Brown University	May 2014 – present
	<b>Faculty Affiliate</b> Biostatistics core, Hasbro Children's Hospital	September 2013 – present
AWARDS AND HONORS	<ul style="list-style-type: none"><li>• Travel award for the 1st woman in statistics conference, Raleigh, NC, May 2014 (\$500).</li><li>• Sheridan junior faculty teaching fellow award, Brown University, 2013–2014 (5 recipients total).</li><li>• Travel award for the Joint Statistical Meeting, University of Washington Seattle, 2012</li><li>• Tuition award for the 2nd Summer Institute in Statistics and Modeling in Infectious Diseases (SISMID), Seattle, WA, 2010</li><li>• Top scholar award, Department of Statistics, University of Washington Seattle, 2007</li></ul>	
OTHER PROFESSIONAL POSITIONS	<b>Research Assistant</b> Statistical Center for HIV/AIDS Research & Prevention (SCHARP), Fred Hutchinson Cancer Research Center, Seattle, Washington Supervisor: Prof. Steve Self and Prof. Jon Wakefield <ul style="list-style-type: none"><li>• Develop spatial-temporal disease mapping models to describe the spatial and temporal variability for Hand-foot-mouth Disease (HFMD) in China.</li><li>• Develop models to estimate strain-specific HFMD counts in China.</li><li>• Develop predictive models to predict the HFMD counts in China.</li></ul>	Winter 2010 – Summer 2012

Alaska Dept. of Fish and Game Wildlife Conservation, Fairbanks, Alaska

- Provide Biometrics support for various projects. Main projects include moose population estimation using GSPE (Geospatial Population Estimation), use and development of a logistic conditional autoregressive models (CAR) model within Bayesian framework to investigate wolverine population distribution in Alaska and DNA-based grizzly bear population estimation using Mark-recapture method.
- Develop spatial models for estimating brucellosis disease rates in Alaska wildlife populations.
- Present research results and analyses to regulatory boards, councils, commissions, and the public.
- Develop and plan workshops such as moose population estimation workshop designed to train regional biologists to use the GSPE method.
- Interpret research findings and prepare special reports and recommendations.
- Develop and review project reports and operational plans.

- PUBLICATIONS
- [1] Carabin H, Millogo A, Cissé A, Gabrië S, Sahlu I, Dorny P, **Bauer C**, Tarnagda Z, Cowan L, Ganaba R. Prevalence of and factors associated with human cysticercosis in 60 Villages in three provinces of Burkina Faso. *PLOS Neglected Tropical Diseases*. 9(11), 2015. DOI: 10.1371/journal.pntd.000424. PMID: 26588468.
  - [2] **Bauer C**, Wakefield JC, Rue H., Self SG, Feng Z, Wang Y. Bayesian spline models for the analysis of spatio-temporal count data. *Statistics in Medicine*. PMID: 26530705.
  - [3] Smith KF\*, Goldberg M, Rosenthal S, Carlson L, Chen J, **Chen(Bauer) C\***, Ramachandran, S\*. Global rise in human infectious disease outbreaks. *Journal of The Royal Society Interface*. 11(101), 2014. DOI: 10.1098/rsif.2014.0950. PMID: 25401184  
\* equal contribution as first author
  - [4] **Chen(Bauer) C**, Wakefield JC, Lumley T. The use of sampling weights in Bayesian hierarchical models for small area estimation. *Spatial and Spatio-temporal Epidemiology*, 11:33-43, 2014. DOI: 10.1016/j.sste.2014.07.002. PMID: 25457595.
  - [5] Mercer L, Wakefield JC, **Chen(Bauer) C**, Lumley T. A Comparison of Spatial Smoothing Weighting Methods for Small Area Estimation. *Spatial Statistics*, 8: 69-85, 2014. PMID: 24959396.
  - [6] Yang Y, Feng Z, Self SG, Gao Y, Wakefield J, Wang L, Zhang J, **Chen(Bauer) C**, Yao L, Stanaway J, Wang Z, Yang W, Wang Y. Hand, foot and mouth disease in China: patterns of spread during 2008-2009. *Epidemiology*, 22(6): 781–792, 2011. PMID: 21968769.
  - [7] Rupp TS, **Chen(Bauer) C**, Olson M. Sensitivity of simulated boreal fire dynamics to uncertainties in climate drivers. *Earth Interactions*, 11: 3-21, 2007.
- PAPERS UNDER REVIEW
- [8] Logan J, **Bauer C**, Li F, Burdick-Will J, Ke J. Applying Bayesian models for small area.
  - [9] Fish L, Wakefield J, **Bauer C**, Self S. Time series modeling of pathogen-specific disease probabilities with incomplete data.
  - [10] **Bauer C**, Wakefield J. Stratified space-time infectious disease modeling: with an application to hand, foot and mouth disease in China.
- PAPERS IN PREPARATION
- [11] **Bauer C**, Genberg, B et al. The spatial pattern of HIV treatment cascade from home-based counseling and testing in western Kenya.
  - [12] **Bauer C**, He J, Zhang Z et al. A spatial-temporal analysis of the association between ambient pollution and birth weight from a cohort study in Wuhan, China.

- [13] Servadio J, **Bauer C** et al. Climate determinants of vector-born infectious disease outbreaks in Asia. To be submitted in August, 2015.
- [14] **Bauer C** and Yang Y. The spatial and temporal patterns of China hand-foot-mouth disease between 2009 and 2014.

RESEARCH  
GRANTS AND  
CONTRACTS

**Research Grants:**

- 2015–2016 The spatial pattern of HIV treatment cascade from home-based counseling and testing in western Kenya.  
CFAR developmental grant PI: Bauer C (\$40,000)
- 2015–2017 Spatial-temporal modeling for surveillance data of multiple pathogens  
NIH/NIAID R21AI119773 PI: Yang Y, University of Florida; Sub-PI: Bauer C (10%)
- 2014–2018 Spatio-temporal epidemiology: methods and applications  
NIH/NCI R01CA095994 PI: Wakefield, J; Sub-PI: Bauer C (20%)
- 2014–2016 Investigating and extending Bayesian methods for small area estimation (\$150,000)  
NIH/NICHD R21HD078762 PI: John Logan (S4); Co-I: Bauer C (1.5 summer month/year)
- 2014–2016 Effects of climate and land-cover change on human infectious disease outbreaks.  
Institute for the Study of Environment and Society (ISES), Brown University (\$150,000)  
PI: Katherine Smith (EEB); Co-I: Bauer C
- 2013–2014 Communications and socio-environmental drivers of disease outbreaks.  
Institute for the Study of Environment and Society (ISES), Brown University (\$20,000)  
PI: Katherine Smith (EEB); Co-I: Bauer C
- 2012–2013 Salomon Faculty Research Awards, Brown University (\$7,500)  
PI: Bauer C  
<http://www.brown.edu/research/2013-salomon-awards>.

TEACHING  
EXPERIENCE

**Brown University**

- Principles of Biostatistics and Data Analysis (PHP 2510), Fall 2013/2014
- Spatial Statistics (PHP 2604), Spring 2013/2014/2016
- Generalized Linear Models (PHP 2605), Spring 2015
- Introduction to Spatial Statistics Workshop (3 hours), S4 GIS Institute, Winter 2013/Summer 2014
- Brown IMSD: Introduction to Statistics. Summer 2014. 4 hours.

**Thesis Advisees**

- Jun Ke, M.S. Biostatistics, current.
- Zihao Zhang, M.S. Biostatistics, current.
- Joe Servadio, M.S. Biostatistics, 2015. *Climate determinants of vector-born infectious disease outbreaks in Asia*.  
Winner of the best poster for Master's students, Brown University SPH Research Day.
- Alyssa Feldman, M.S. Biostatistics, 2014. *Analyses of the temporal trends of global infectious disease outbreaks*.

### **Committee Member/Thesis Reader**

- Bahar Erar, Ph.D. Biostatistics. *Whole Genome Regression for Modeling Gene $\times$ Environment Interactions in Structured Populations*, current.
- Frances Terry, MPH, 2015
- Ida Sahu, Ph.D. Epidemiology, 2014, current.

### **Visiting Student Supervised**

- Ping Wang, Spring 2015. School of Public Health, City University of Hong Kong.

### **Lectures/Workshop Taught Elsewhere**

- Introduction to Statistics (Stat 300), an elementary statistics course for undergraduate students. University of Alaska Fairbanks, Fairbanks, Alaska, Fall 2005 – Spring 2006.
- Analysis of Epidemiological Data, Brown-China NIEHS Epidemiology and Biostatistics Workshop. Xi'an, China, Summer 2015. 2 hours.

### **PROFESSIONAL SERVICE Department Service:**

- Faculty liaison, Sheridan Center, 2014 - present
- Graduate program committee, Fall 2013/Fall 2014/Fall 2015/Spring 2016
- Ph.D. qualifying exam committee, Spring 2015
- Master admission committee, Spring 2013/2015/2016
- Ph.D. admission committee, Spring 2014
- Brown Statistics Seminar, 2013-14

### **Department Ad-hoc Committee:**

- Data Science Track in ScM program, Spring 2016

### **School of Public Health Service:**

- MPH core advisor, School of Public Health, Brown University, 2013-14/2014-15
- Curriculum committee member, 2014-15

**Referee Service:** Journal of American Statistical Association (JASA), Statistics, Politics and Policy, Spatial Statistics, Journal of official statistics.

### **TALKS AND PRESENTATIONS**

- Analysis of epidemiological data Module, Brown-China NIEHS Epidemiology & Biostatistics Workshop, Xi'an China June 2-5, 2015
- Statistical analysis of the ambient air pollution data in Wuhan, China. China Forum on Public Health, Environment, and Health Policy, Brown University, April, 2015
- Session organizer (invited): Recent advances in Spatial statistics. The 29th New England Symposium (NESS), University of Connecticut, April, 2015
- Invited talk: The use of sampling weights in Bayesian hierarchical models for small area estimation. Department of Statistics, University of Connecticut, CT, November, 2014
- Invited talk: The use of sampling weights in Bayesian hierarchical models for small area estimation. Department of Management Science, Tokyo University of Science, Tokyo, Japan, July 2014
- Invited talk: Bayesian spline models for the analysis of spatial-temporal count data. The 3rd IMS-APRM (Institute of Mathematical Statistics Asia Pacific Rim Meeting), Taipei, Taiwan, July 2014

- Invited talk: Bayesian spatial-temporal models for the analysis of China Hand-foot-mouth surveillance data.  
China CDC, Beijing, China, June 2014
- Contributed poster: Bayesian spline models for the analysis of spatial-temporal count data.  
1st Women in Statistics Conference, Cary, NC, May 2014
- Contributed talk: Space-time models for aggregated infectious disease data with different strains.  
Joint Statistical Meetings (JSM), Montreal, Canada, August 2013.
- Invited: Bayesian spline models for the analysis of spatial-temporal count data.  
15th IMS New Researchers Conference, Montreal, Canada, August 2013.
- Invited talk: Bayesian spline models for the analysis of spatial-temporal count data (In the session of Recent Development in Spatial Statistics)  
The 27th New England Symposium (NESS), University of Connecticut, April 2013
- Invited talk: Bayesian modeling of health data in space and time  
Department of Mathematics and Statistics, University of Massachusetts Amherst, April 2013
- Invited talk: Spatial statistics and its applications.  
S4 GIS Institute, Brown University, January 2013
- Contributed poster: Bayesian spline models for the analysis of spatial-temporal count data.  
Spatial Statistics Conference, University of Miami, December 2012
- Contributed talk: The use of sampling weights in Bayesian hierarchical models for small area estimation.  
Joint Statistical Meetings (JSM), San Diego, CA, July 2012.

PROFESSIONAL American Statistical Association, 2010 – present  
MEMBERSHIPS